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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/067,812	02/08/2002	Yasukazu Iwasaki	040356-0424	8928
22428	7590	01/24/2006	EXAMINER	
FOLEY AND LARDNER LLP SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			MERCADO, JULIAN A	
			ART UNIT	PAPER NUMBER
			1745	

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Am

Office Action Summary	Application No.		Applicant(s)	
	10/067,812		IWASAKI ET AL.	
	Examiner		Art Unit	
	Julian Mercado		1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 9-11 and 13 is/are rejected.
- 7) ☒ Claim(s) 7, 8 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remarks

This Office action is responsive to applicant's request for reconsideration filed November 14, 2005.

Claims 1-13 are pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

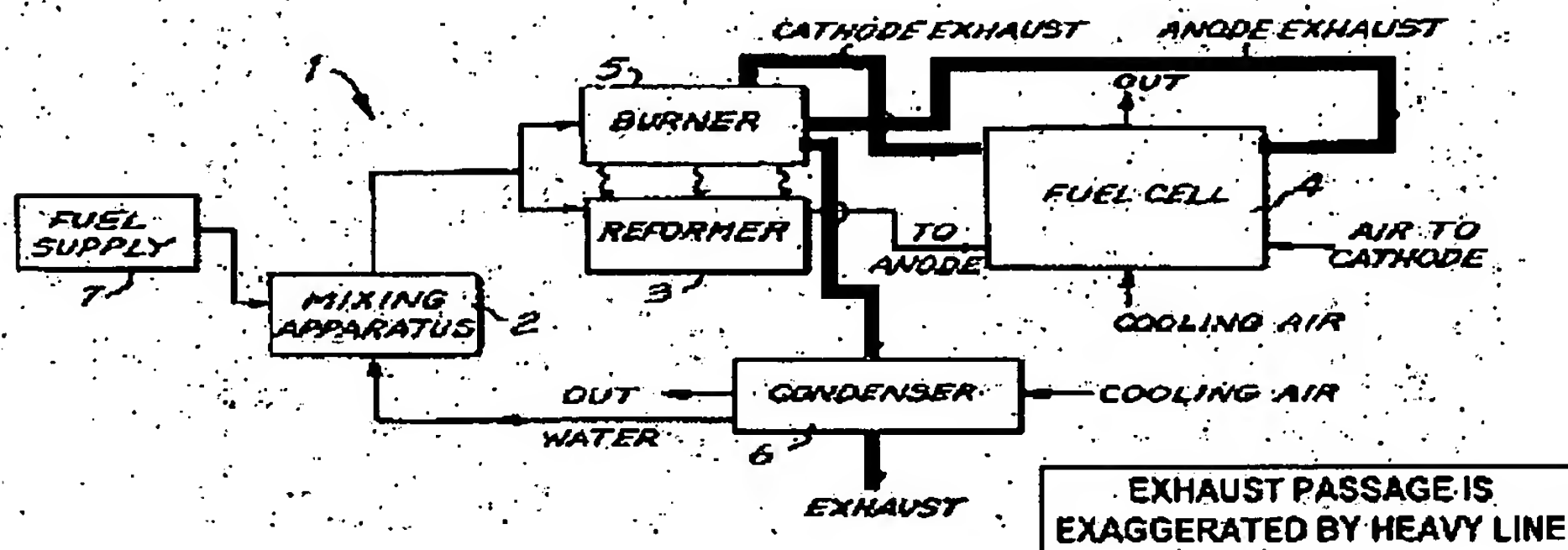
Claims 1, 3-6, 10 and 11 rejected under 35 U.S.C. 102(b) as being anticipated by Abens et al. (U.S. Pat. 4,585,708).

The rejection is maintained for the detailed reasons of record. The examiner notes that the claims have not been amended; the scope of the present claims are the same as that considered in the prior Office action. Applicant's arguments filed with the request for reconsideration have been fully considered, however they are not found persuasive.

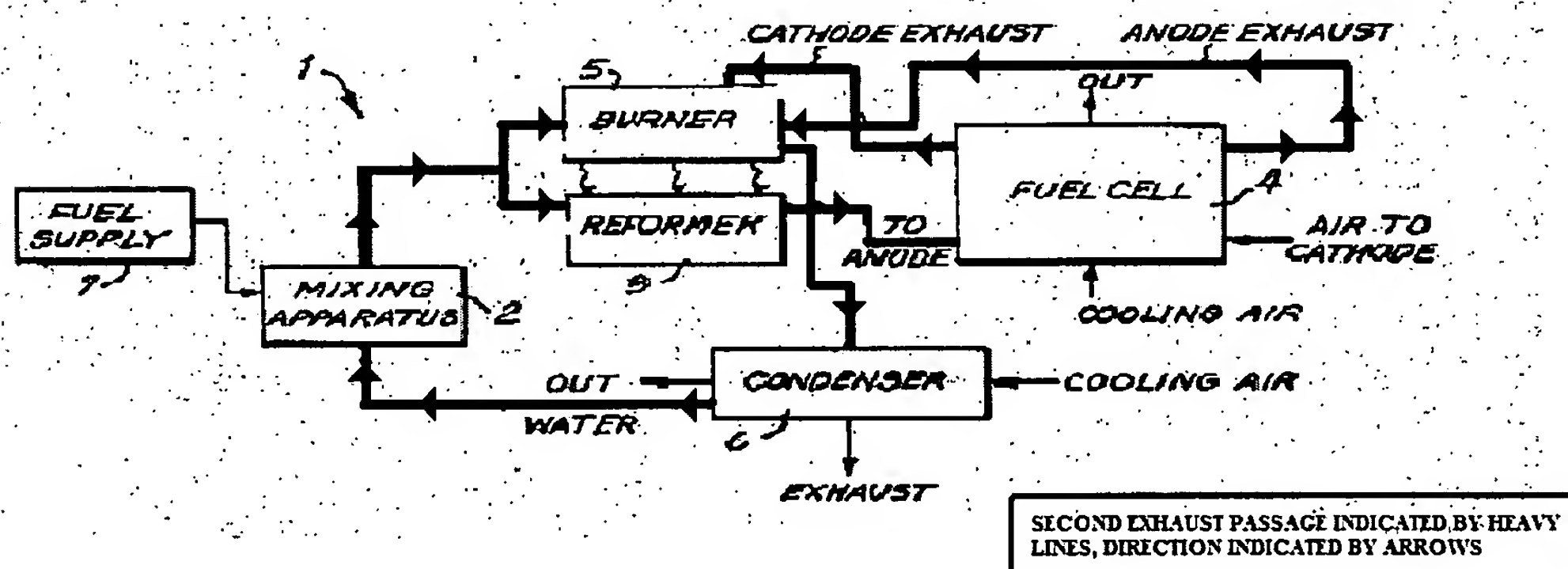
Applicant submits that Abens et al. does not disclose or suggest that part of the exhaust gas is circulated from the fuel cell back to the fuel cell. In reply, applicant is reminded that while features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 128 F.3d 1473, 1477-78, 44

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USPQ2d 1429, 1431-32 (Fed. Cir. 1997) Indeed, the fuel cell system of Abens et al. comprises an exhaust gas circulation passage, as shown in Figure 1 submitted by applicant as follows:



Applicant submits that in Abens et al. the fuel cell system exhausts the cathode and anode exhaust gases outside of the fuel cell via the burner 5 and condenser 6, as shown by the heavy lines. While the examiner concedes with this interpretation of Abens et al., it is noted that the exhaust line also bifurcates from condenser 6 as follows:



Notwithstanding the functional language of the claim, it is asserted that Abens et al. teaches circulation of part of the exhaust gas, i.e. water, which is then mixed with the fuel

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supply 7 at mixing apparatus 2, which is then directed to the reformer 3 wherein “[t]he reformer 3, in turn, converts the fuel-water mixture to fuel process gas which is delivered to the anode of the fuel cell 4.” See col. 2 line 52 et seq. Thus, it is asserted that part of the exhaust gas (which contains both exhaust gas and water) is circulated back to the fuel cell insofar as the water portion of the exhaust is used in the reforming reaction.

As to the reformer 3 in Abens et al. not being readable on the claimed vaporizer, it is noted that applicant submits that “the reformer 3 converts the liquid fuel to other substances (i.e., fuel process gas) using a chemical reaction, and is therefore not a vaporizer.” (remarks on page 5) In reply, the examiner submits that this analysis is in direct conflict with applicant’s prior definition of a vaporizer: “[a]s defined, vaporized means “to be converted into a vapor, wherein a vapor is a gaseous state of a substance that, under ordinary conditions, is a liquid or a solid.” (see the July 28, 2005 response on page 5) By this definition, it is asserted that in Abens et al., the fuel process gas, which is clearly in a gaseous state, meets the definition of a vapor as derived from the liquid fuel.

With respect to the reformer 3 not being in the exhaust gas circulation passage, as shown above by the second route of the exhaust line it is asserted that the reformer is indeed along the exhaust gas circulation passage.

Claims 2 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abens et al. in view of Okamoto (U.S. Pat. 6,045,933)

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Abens et al. in view of Hsu (U.S. Pat. 5,747,185)

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The rejection based on Abens et al. in view of Okamoto and Abens et al. in view of Hsu is maintained for the reasons of record. Arguments against the secondary references appear to be directed to each of these references failing to remedy alleged differences between Abens et al. and the present claims. However, in view of Abens et al. being maintained for the reasons discussed above, the rejection in view of Okamoto and Hsu is maintained for the reasons discussed in the previous Office action.

Allowable Subject Matter

Claims 7, 8 and 12 are maintained objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The reasons for the provisional allowability of these claims have been discussed in the prior Office action.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Pat. 4,859,545 to Scheffler et al. is cited to teach recirculation of a fuel cell exhaust back to the fuel cell.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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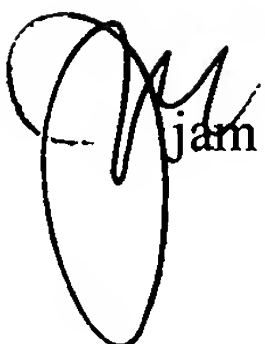
shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (571) 272-1289. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

A handwritten signature in black ink, appearing to be "Julian", with a large, stylized loop at the end.